

27 Jun 1989

CO0MQ-A

COUNTER, ELECTRONIC

1. GENERAL. This procurement requires a time interval and frequency counter.

2. CLASSIFICATION. Type II, Class 6, Style E, and Color R in accordance with MIL-T-28800.

2.1 Electromagnetic interference requirements. The requirements of MIL-T-28800 are limited to CE01, CE03, CS01, CS02 (0.05 to 100 MHz), CS06, RE01 (back panel search excluded), RE02 (14 kHz to 1 GHz), and RS03.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of time interval and frequency measurements within the minimum specifications and accuracies detailed below.

3.1 Time interval.

3.1.1 Range. -1s to +1s.

3.1.2 Trigger rate. 0 to 100 MHz.

3.1.3 Resolution. 1 ps with averaging.

3.1.4 Jitter. 100 ps maximum allowable.

3.1.5 Accuracy. The total uncertainty shall not exceed 1 ns.

3.2 Frequency.

3.2.1 Range. 0.1 Hz to 10 MHz.

3.2.2 Resolution. 1 uHz with 10 MHz input.

3.2.3 Accuracy. The total uncertainty shall not exceed 2×10^{-7} .

3.3 Input characteristics.

3.3.1 Impedance. 1 megohm shunted by 50 pF or less, or 50 ohms nominal, switch selectable.

3.3.2 Sensitivity. 40 mVrms.

3.3.3 Trigger level. Adjustable from -2V to +2V.

3.4. Time base.

3.4.1 Internal. Frequency: 10 MHz. Settability: 1×10^{-9} . Aging rate: 5×10^{-10} /day maximum after 24 hours warmup. Output: 1 Vrms nominal into 1 kilohm.

3.4.2 External. Frequency: 5 or 10 MHz. Amplitude: 1 Vrms nominal into 1 kilohm.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal power source requirements are invoked. Operation at 400 Hz

is not required. Maximum power consumption: 250W.

4.2 Weight. 20 kg (44 lb) maximum.

4.3 Digital interface. Digital interface in accordance with MIL-T-28800.

4.4 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.5 Calibration interval. 12 months maximum. End-of-interval confidence factor: 72%.